ROYAL CANADIAN ARMY CADETS

GREEN STAR

INSTRUCTIONAL GUIDE

SECTION 10

EO C121.01 – CONSTRUCT FIELD AMENITIES

Total Time: 120 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-701/PG-001, *Green Star Qualification Standard and Plan*, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

A demonstration and performance was chosen for TP 1 as is allows the instructor to demonstrate and explain how to tie knots while providing an opportunity for the cadets to practice the skill under supervision.

A practical activity was chosen for TP 2 as it is an interactive way to allow cadets to experience creating field amenitues in a safe and controlled environment.

INTRODUCTION

REVIEW

The pertinent review for this lesson will include tying of a:

- reef knot EO M121.03 (Section 3); and
- clove hitch EO M121.03 (Section 3).

OBJECTIVES

By the end of this lesson the cadets shall be expected to construct field amenities utilizing the knots and lashings presented.

IMPORTANCE

Field amenities serve many purposes at the bivouac site, from storing food to drying wood. The construction of such objects makes field living more comfortable.

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Teaching point 1 **Explain, demonstrate and have the cadets tie knots and lashings used in the construction of field amenities.**

Time: 50 min Method: Demonstration and Performance

KNOTS

Constrictor Knot. With one extra tuck, the clove hitch becomes the constrictor knot and can be tightened around any object. Made with fine twine, it serves as an improvised whipping at the end of a rope. It can also act as a hose clip, or a round clamp when trying to glue a split in a piece of wood. The knot can be pulled extremely tight if it is tied around something like a screwdriver. It may need to be cut loose with a knife as the knot is so tight.



The instructor shall provide an EXPLANATION and DEMONSTRATION of the complete process.

The instructor shall then provide an EXPLANATION and DEMONSTRATION of each step required to effectively tie the knot.

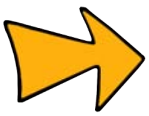


The Pocket Guide to Knots and Splices, Des Pawson, 2001

Figure 1 The Constrictor Knot

To tie a constrictor knot:

1. begin with a clove hitch;
2. bring the working end tuck over and under the standing part, making the first half of a reef knot; and
3. pull tight so that the half knot is trapped under the crossing of the clove hitch to finish the knot.



Cadets will IMITATE the demonstration provided by the instructor for each step within the process. The instructor(s) will SUPERVISE the cadets during this imitation.

Slipped Overhand Knot. Like the overhand knot EO M121.03 (Section 3), this knot serves as a stopper knot, holding objects when the tension is equal at both ends, etc. The addition of a slip allows for quick release. The bight or loop remaining allows the knot to be untied, or “slipped,” by pulling the short end protruding from the knot.

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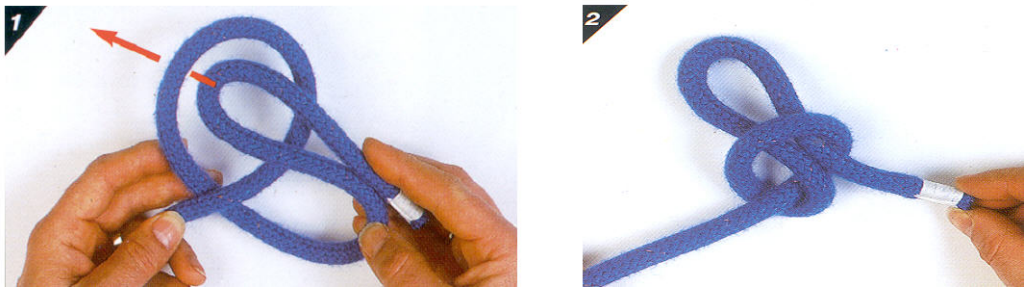
The instructor shall provide an EXPLANATION and DEMONSTRATION of the complete process.

The instructor shall then provide an EXPLANATION and DEMONSTRATION of each step required to effectively tie the knot.

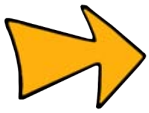


The Pocket Guide to Knots and Splices, Des Pawson, 2001

Figure 2 Slipped Overhand Knot

To tie a slipped overhand knot:

- form a bight in the working part of the rope and tuck as in the overhand knot; and
- tighten the knot.



Cadets will IMITATE the demonstration provided by the instructor for each step within the process. The instructor(s) will SUPERVISE the cadets during this imitation.

Sink Stopper Knot. When a large knot is needed, it is tied at the end of a rope, and usually prevents a rope from being pulled through a hole. It also stops the end of a rope from fraying.



The instructor shall provide an EXPLANATION and DEMONSTRATION of the complete process.

The instructor shall then provide an EXPLANATION and DEMONSTRATION of each step required to effectively tie the knot.

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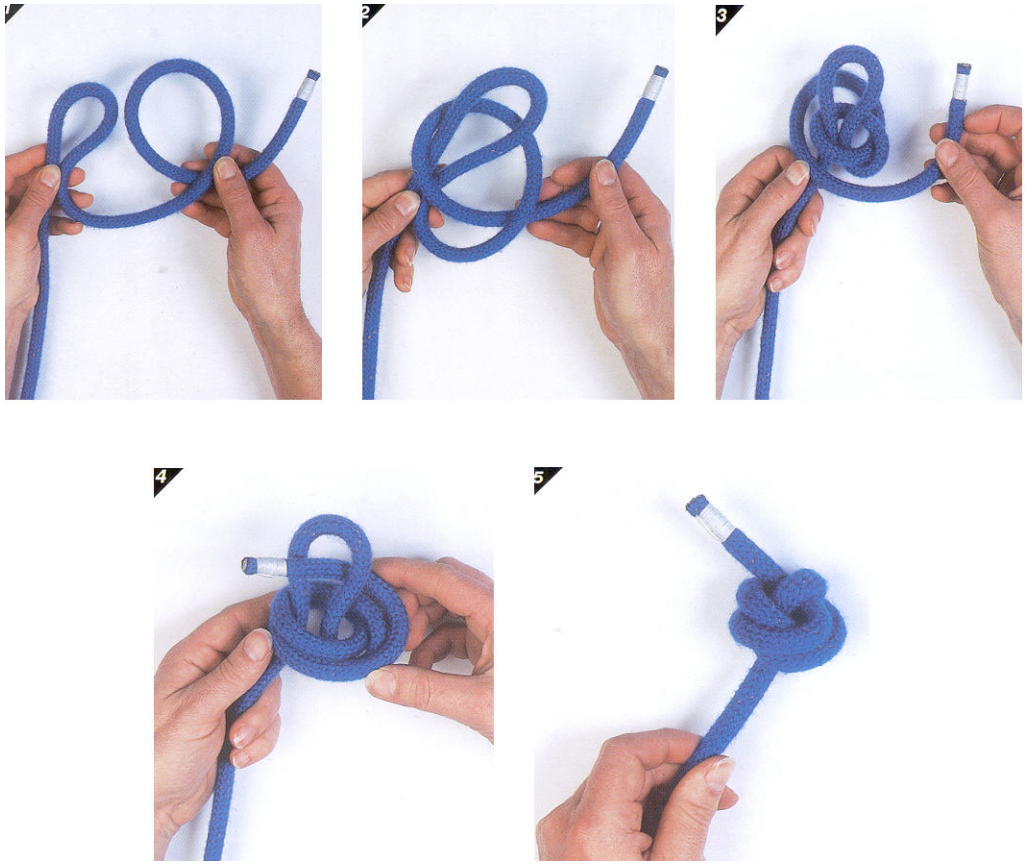

The Pocket Guide to Knots and Splices, Des Pawson, 2001

Figure 3 Sink Stopper Knot

To tie a sink stopper knot:

4. make a crossing turn with the working end passing under the standing part of the rope. Make a bight in the standing part;

5. tuck the bight formed in the standing part up through the loop;

6. tighten a little and take the working part in a counterclockwise direction around the standing part;

7. tuck the working end through the bight, ensuring that the working part fits snugly into the crossing part of the original overhand knot. Work all the slack out to form a neat tight knot; and

8. the knot is finished.

Cadets will IMITATE the demonstration provided by the instructor for each step within the process. The instructor(s) will SUPERVISE the cadets during this imitation.

BENDS

Sheet Bend. One of the simplest and best ways to tie two pieces of rope together. It works best if the ropes are the same or almost the same size.

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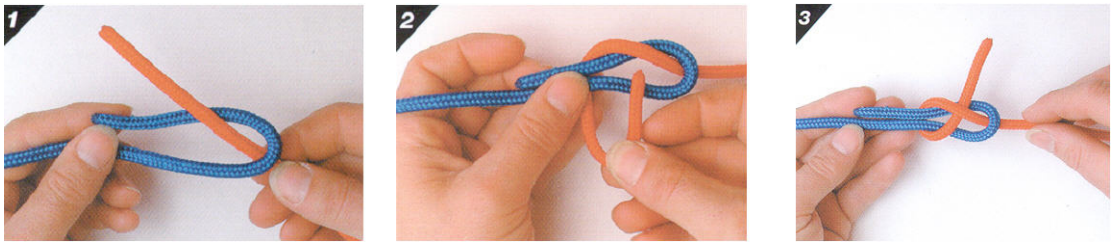
The instructor shall provide an EXPLANATION and DEMONSTRATION of the complete process.

The instructor shall then provide an EXPLANATION and DEMONSTRATION of each step required to effectively complete the bend.



The Pocket Guide to Knots and Splices, Des Pawson, 2001

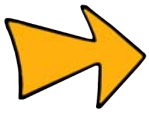
Figure 4 Sheet Bend

To tie a sheet bend:

1. fold the end of a piece of rope back on itself to form a bight. If the ropes to be joined are of varying sizes, this should be the larger of the two. Bring the working end of the second piece of rope up through the bight;

2. take the working end of the rope round the shorter end of the first rope and round behind the standing part; and

3. the working end of the second piece is tucked under itself, then pulled tight.



Cadets will IMITATE the demonstration provided by the instructor for each step within the skill. The instructor(s) will SUPERVISE the cadets during this imitation.

Double Sheet Bend. Much like the sheet bend, it is best used if there is a great difference in the size of the two ropes to be joined. It is made with the thinner of the two, and the extra turn in the double sheet bend makes a lot of difference by stopping any slipping, or the knot from collapsing.



The instructor shall provide an EXPLANATION and DEMONSTRATION of the complete process.

The instructor shall then provide an EXPLANATION and DEMONSTRATION of each step required to effectively complete the bend.

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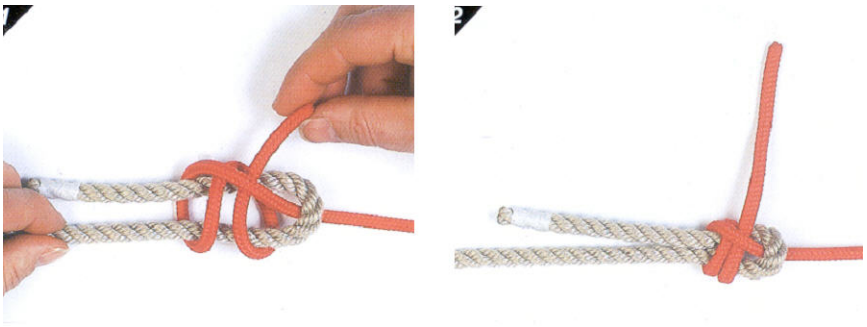

The Pocket Guide to Knots and Splices, Des Pawson, 2001

Figure 5 Double Sheet Bend

To tie a double sheet bend:

1. make the sheet bend, then carry on and make a second pass right round the bight with the working end of the second piece of rope; and

2. pull the finished knot tight.

Cadets will IMITATE the demonstration provided by the instructor for each step within the process. The instructor(s) will SUPERVISE the cadets during this imitation.

LASHING

Sheer Lashing. Has two distinct uses:

- creates an “A” frame or set of sheer legs using one sheer lashing; and
- multiple lashings can be used to bind together a couple of poles to make a larger arm or rod.

The instructor shall provide an EXPLANATION and DEMONSTRATION of the complete process.

The instructor shall then provide an EXPLANATION and DEMONSTRATION of each step required to effectively complete the lashing.

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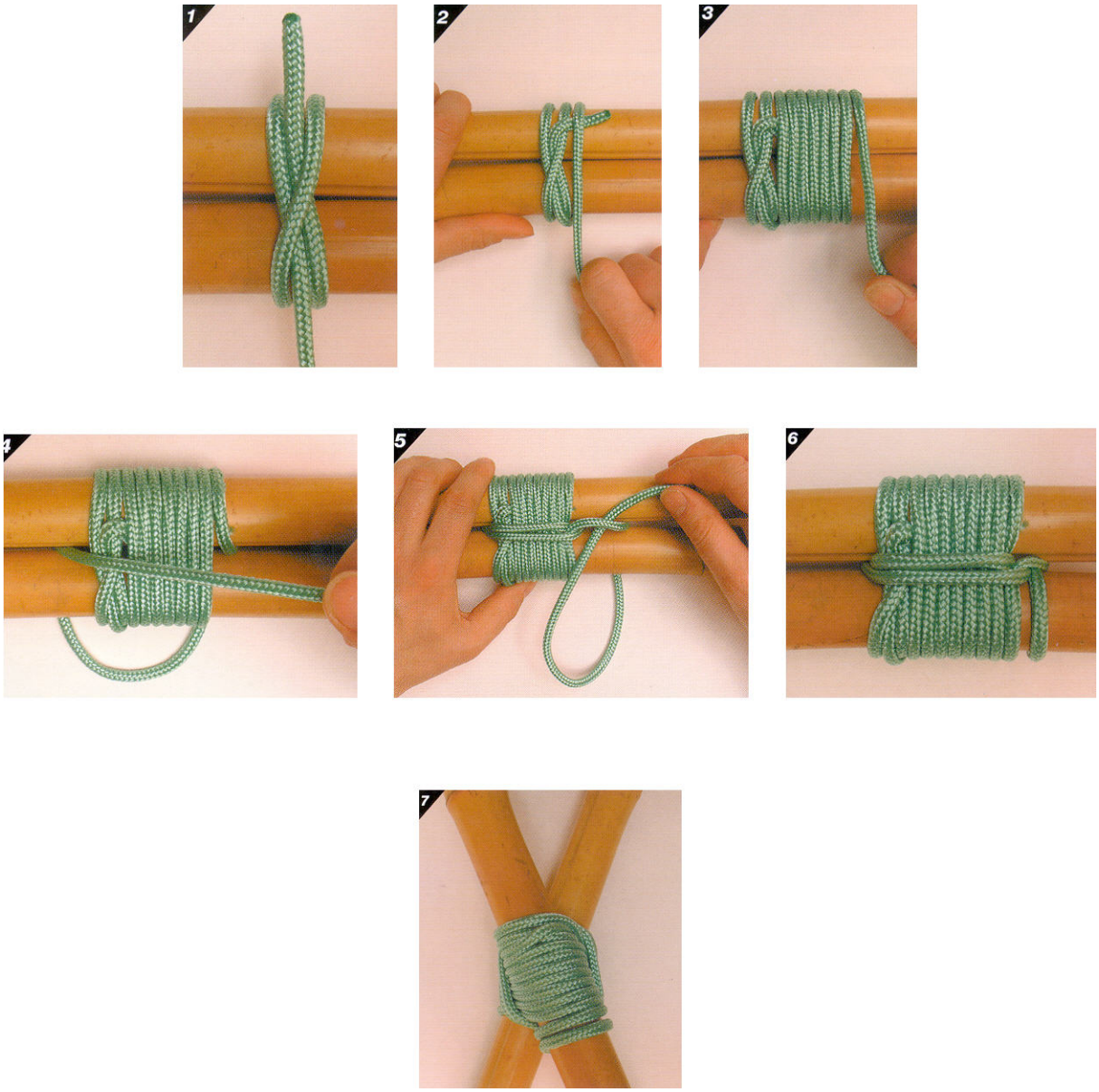

The Pocket Guide to Knots and Splices, Des Pawson, 2001

Figure 6 Sheer Lashing

To tie a sheer lashing:

1. start by making a clove hitch around both poles;

2. wrap round both poles, trapping the end of the clove hitch;

3. carry on making eight to ten more turns round the pair of poles. The lashing could now be finished with a clove hitch round both poles; or

4. add a couple of trapping turns by bringing the end of the rope between the two poles;

5. finish off with a clove hitch around one of the poles;

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6. pull the running end tight and tuck the loose end through the parallel poles of the finished sheer lashing; and

7. open the finished sheer lashing to create a pair of sheer legs or “A” frame.

Cadets will IMITATE the demonstration provided by the instructor for each step within the skill. The instructor(s) will SUPERVISE the cadets during this imitation.

CONFIRMATION OF TEACHING POINT 1

Cadets will PRACTICE the tying each knot, bend and hitch. The instructor(s) will SUPERVISE the cadets during this practice and provide feedback as required.

QUESTIONS

Q1. What is a sink stopper knot used for?

Q2. Can a bend tie two pieces of unequal sized rope together?

Q3. What is one of the uses of a sheer lashing?

ANTICIPATED ANSWERS

A1. To prevent a rope from being pulled through a hole, or from fraying at the end.

A2. Yes, it can.

A3. One of the following: creates an “A” frame, or a set of legs using one sheer lashing, or multiple lashings can be used to bind together a couple of poles to make a larger arm or rod.

Teaching point 2 **Have the cadets create two field amenities.**

Time: 60 min Method: Practical Activity

FIELD AMENITIES

Bear Hang. A bear hang allows the resident of a base camp to store food, while preventing a bear or animal from getting to it.



The Backpacker’s Field Manual: A Comprehensive Guide to Mastering Back Country Skills, Rick Curtis, 1998

Figure 7 Bear Hang

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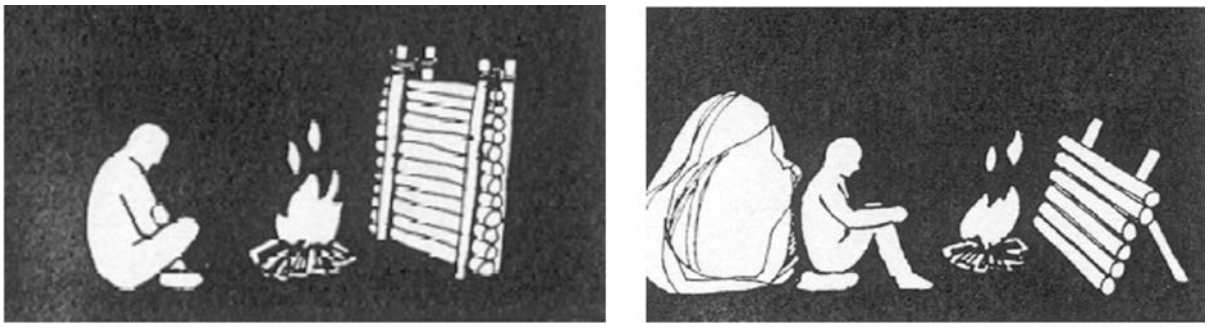
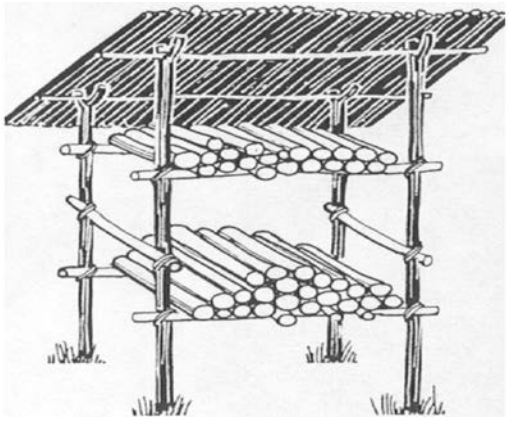
Fire Wall Reflector. A fire wall reflector will help shield a fire from wind which can blow it out, and spread the fire and sparks around the bivouac site. It also reflects the heat around the bivouac site. The wall will vary, depending on how high you will need it.



The SAS Survival Handbook, John Wiseman, 1986

Figure 8 Fire Wall Reflector

Drying Rack. A drying rack should be set up close enough to a fire to dry the wood, but not so close to ignite if struck by a spark. The two levels of the rack allow for adding more wet wood and still keeping them separate from the already drying wood.



The SAS Survival Handbook, John Wiseman, 1999

Figure 9 Drying rack

Wash Station (Ablutions). Wash stations may be constructed in a structure similar to one found in Figure 10. The dotted line indicates that you may attach cloth to add privacy.

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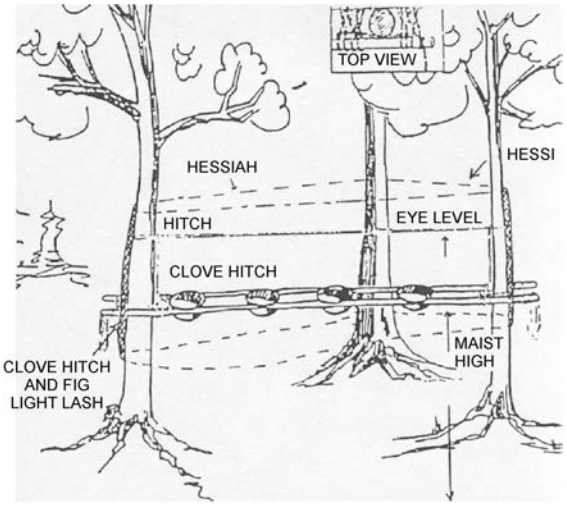

Field Aide-Memoire, Regional Cadet Instructor School, 1999

Figure 10 Ablutions Stand

ACTIVITY

OBJECTIVE

Cadets will construct suggested field amenities for a bivouac site using the knots and lashings learned to date.

RESOURCES

Cadets will be given:

- Adequate supply of rope.
- Natural resources, procured in the field, suitable for construction of field amenities.
- Diagrams of suggested construction for field amenities, found at Attachment A.
- Supervision.
- Minimal assistance as required.

ACTIVITY LAYOUT

- Cadets will be divided into groups of four and given a diagram of a field amenity introduced in this lesson. They will be given the resources listed above and a time limit of 100 minutes for preparation and construction of field amenities.

The cadets are to select and utilize the most appropriate of the knots and lashings presented in EO M121.03 (Section 3) and this EO to construct the field amenities.

SAFETY

Cadets will adhere to the following safety rules in the field:

- safe tools use;
- no running or horseplay;

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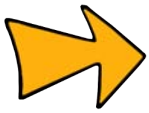
- utilizing the buddy system at all times; and
- respecting established boundaries.

INSTRUCTOR GUIDELINES

While cadets construct field amenities, the instructor will monitor the groups and ensure the safety of cadets.



Cadets are reminded to adhere to the rules of no trace camping by utilizing felled wood and returning their environment to the way it was found. Field amenities may be constructed using logs, dead wood, etc.; however, these materials must be redistributed once the activity is completed.

END OF LESSON CONFIRMATION

The end of lesson confirmation will be accomplished through judging of the field amenities constructed. They will be judged for stability, quality of knots, and overall appearance.

CONCLUSION

HOMEWORK/READING/PRACTICE

Nil.

METHOD OF EVALUATION

Nil.

CLOSING STATEMENT

After learning how to enhance your base camp, you will be better prepared to enjoy your living space in the field. Field amenities can help the field feel like your home away from home.

INSTRUCTOR NOTES/REMARKS

Approval from local authorities shall be obtained prior to using natural resources for field amenities.

REFERENCES

A2-008 DCdts (1999). *RCIS Field Aide-Memoire* (1 ed.). Ottawa, ON: National Defence.

C2-007 (ISBN 0-7858-1446-9) Pawson, D. (2001). *Pocket Guide to Knots and Splices.* Edison, NJ: Chartwell Books, Inc.

C2-008 (ISBN 0-00-265314-7) Wiseman, J. (1999). *The SAS Survival Handbook.* Hammersmith, London: Harper Collins Publishers.

C2-016 (ISBN 0-517-88783-5) Curtis, R. (1998). *The Backpacker's Field Manual: A Comprehensive Guide to Mastering Backcountry Skills.* New York, NY: Three Rivers Press.

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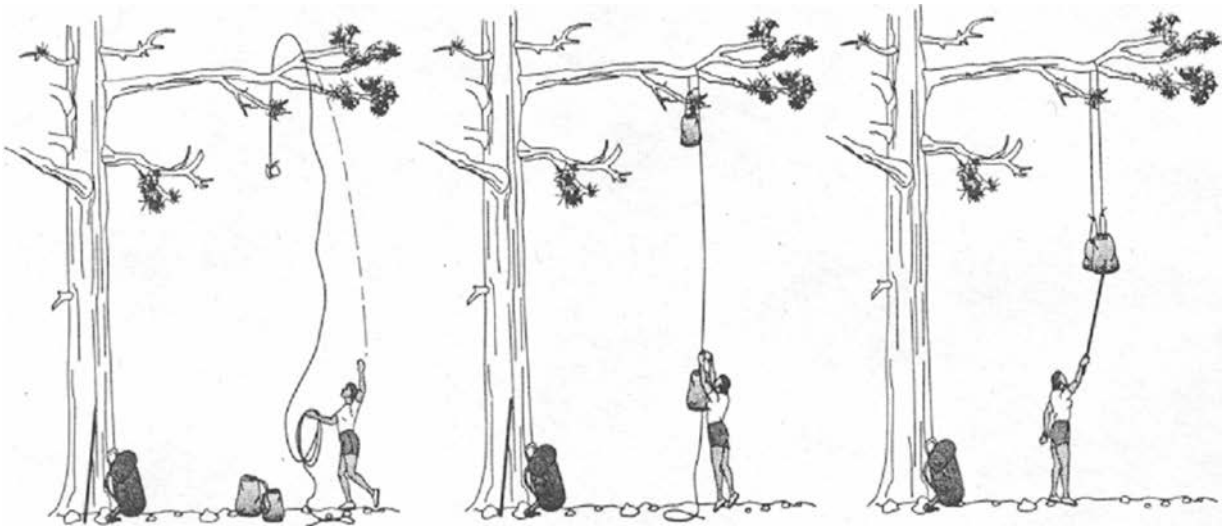
CONSTRUCT FIELD AMENITIES

BEAR HANG



Instructions:

1. Find a tree with a live branch. The branch should be at least 15 feet (five metres) from the ground with no object below that a bear could stand on. When you throw the rope it should be more than 10 feet (three metres) from the tree.

2. Separate food from other items and store them into two equal bags.

3. Throw the rope over the branch. Attach one end of the rope to one of the bags with a slipped overhand knot.

4. Raise the bag as close as you can to the branch.

5. Attach the other bag to the rope as high up on the rope as you can. Leave a loop of rope near the bag for retrieval.

6. Push the second bag up to the level of the other bag with a long stick.

7. To retrieve the bags, hook the loop of the rope with the stick and pull it down. Remove the bag and then lower the first bag.

Safety:

- Make sure that no one is standing near when you are throwing or retrieving the bags.
- Do not place objects heavier than two pounds in each bag.
- Remember to distribute the weight of the two bags as best as you can.

Standard:

A proper bear hang should meet specifications above as close as possible. The instructor should be satisfied that the bag would be inaccessible to a bear. All knots and lashings will be assessed for neatness, proper appearance, and proper use for the knot.

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FIRE WALL REFLECTOR



Instructions:

1. Cadets should find an area suitable for insulating heat, such as a rock in the diagram below.

2. If unable, there should be two walls to reflect the heat onto the people using it.

3. Attach two poles using a clove hitch, with about four to six inches in between to fill with smaller logs and wood found in the area.

4. As in the second diagram, the reflector wall may be on a slant and the logs lashed to the support beams also with a clove hitch.

Safety:

1. Cadets should be cautious moving through the woods, gathering materials to fill the walls. Make sure to utilize the buddy system.

2. Only use logs that you are physically able to carry.

3. Do not build anything high enough to fall on you if it topples.

Standard:

The reflector should be able to stand on its own without falling over, and must be built in a strategic place to reflect heat. All knots and lashings will be assessed for neatness, proper appearance, and proper use for the knot.



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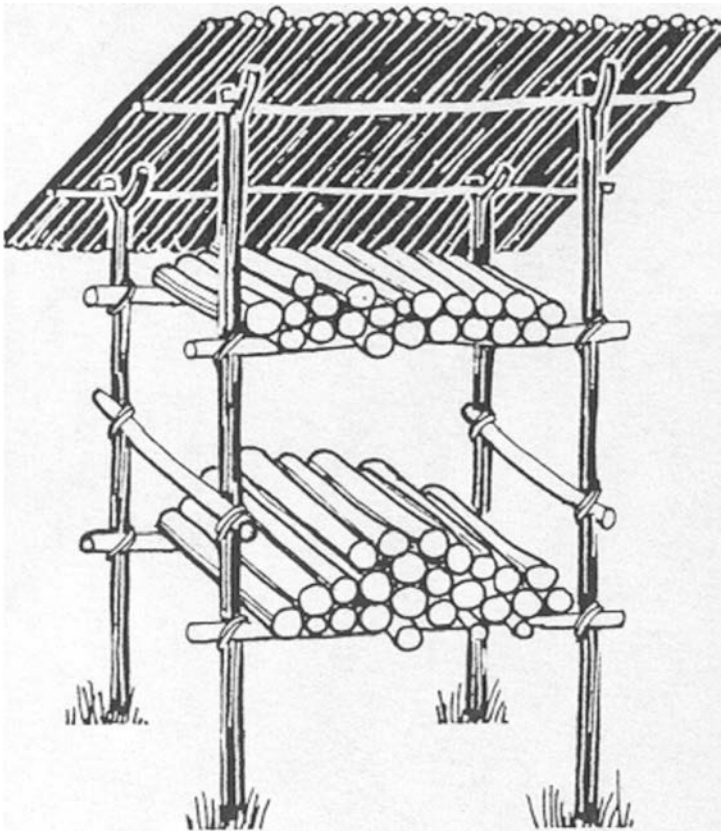
DRYING RACK



Instructions:

1. Find four sticks that have a branch close to the top so that it looks like a letter ‘Y.”

2. Two of the sticks shall be shortened six inches. A bar will be placed between each set of sticks to hold a roof.

3. Use a half shelter or lash sticks of similar size, length, and thickness together to act as a roof for the wood shed. The roof will need to be as wide or wider than the base structure.

4. Lash a stick to each side of the structure and lay wood across to dry.

5. Add more sticks on the sides of the structure to add support or another shelf for wood.

Safety:

Place the roof on first before trying to raise the structure so it is less likely to fall and hurt anyone.

Standard:

The structure should be free standing, and able to hold wood on one or two levels, depending on the sophistication of the structure. All knots and lashings will be assessed for neatness, proper appearance, and proper use for the knot.

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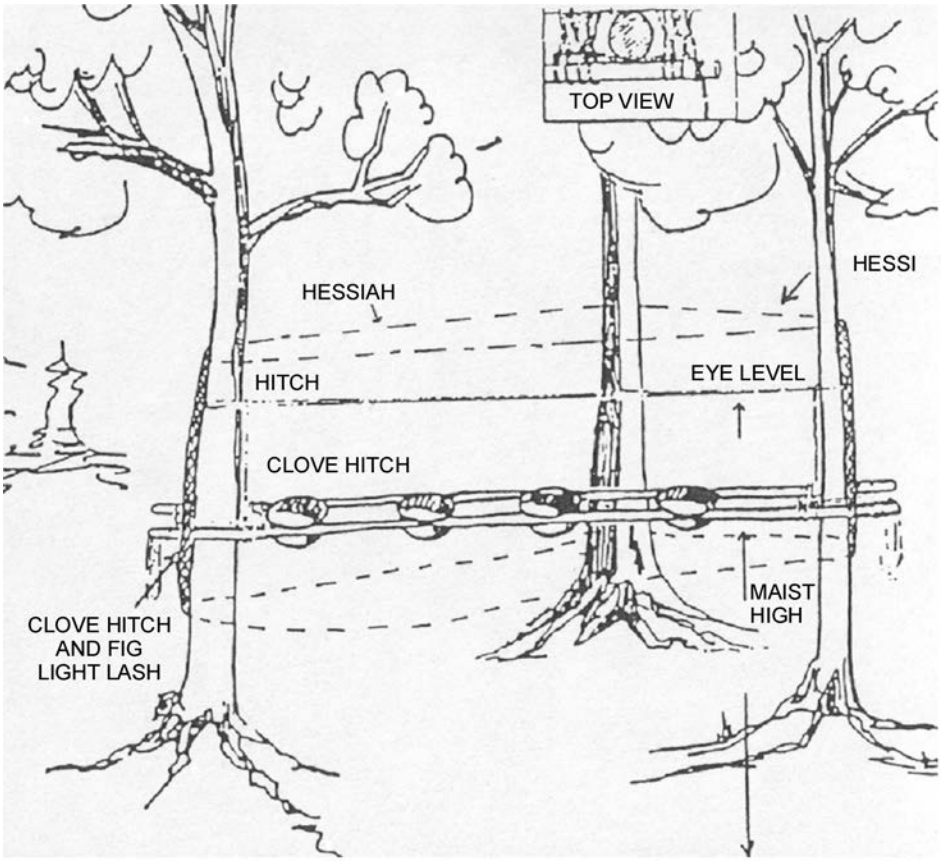
ABLUTIONS STAND



Instructions:

1. Locate three trees approximately eight to ten feet apart in a triangular formation. If a third tree is not available, improvise with a picket (a tall, sturdy stick to be used as a post).

2. Locate two sticks long enough to extend slightly past two of the three trees. These sticks will need to support four wash basins.

3. Lash one stick on each side of the trees at waist height using a clove hitch.

4. Construct four wash basin holsters by tying figure eight weaves in pairs. The lashings should be close enough to slide a wash basin in between.

Note:	Ground sheets may be lashed to the outside of the tree formation to provide privacy for someone using the ablution stand.

Safety:

1. Make sure than you only use logs that you are able to lift safely.

2. Logs should be braced at both ends while being tied and lashed to trees.

Standard:

The wash area should be able to support wash basins, and at a level that is reachable by everyone. All knots and lashings will be assessed for neatness, proper appearance, and proper use for the knot.

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